**DRAFT**

# TECHNICAL MANUAL
# OPERATOR AND FIELD MAINTENANCE MANUAL

## FOR
## EOLAD (LASER AIMING DEVICE WITH EoTECH HOLOGRAPHIC WEAPON SIGHT™)

**EOLAD-1V**
☐ 50012 (<5mW) (635nm)

**EOLAD-1I**
☐ 50013 (<5mw) (835nm) ☐ 50018 (<40mw) (835nm)
☐ 50016 (<120mw) (835nm)

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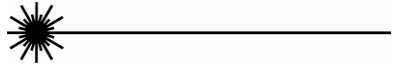
**SAFETY SUMMARY**

**DANGER**

**LASER RADIATION**
**AVOID DIRECT EXPOSURE TO THE BEAM**



**HWS WAVELENGTH: 650nm**

**DANGER**

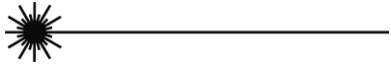
The HWS laser beam can become eye accessible if the housing is broken. If the housing is broken, turn OFF the sight immediately and return the unit for repair.

- DO NOT stare into the laser beam.
- DO NOT look into the laser beam through binoculars or telescopes.
- DO NOT point the laser beam at mirror-like surfaces.
- DO NOT shine the laser beam into other individual's eyes.

The EOLAD HWS is a Class II laser product. However, the Class II level illumination beam is completely blocked by the housing. The only laser accessible to the eye is the image beam which falls within the limits of a Class IIa laser product.

**DANGER**

**VISIBLE OR INVISIBLE LASER RADIATION**
**AVOID DIRECT EXPOSURE TO THE BEAM**



**VISIBLE LASER POINTER (Class IIIa)**
**OUTPUT: <5mW | WAVELENGTH: 535nm / 635nm**

**INFRARED LASER POINTER (Class IIIb)**
**OUTPUT: <5mW / <40mW / <120mW | WAVELENGTH: 835nm**

- DO NOT stare into the laser beam.
- DO NOT look into the laser beam through binoculars or telescopes.
- DO NOT point the laser beam at mirror-like surfaces.
- DO NOT shine the laser beam into other individual's eyes.

**Table A-1 Safety Data**

**WARNING**

The Non-Ocular Hazard Distance depends upon the model of EOLAD that is being used.

| Part No. | LASER | OUTPUT POWER | SAFETY CLASS | NOHD (m) |
|---|---|---|---|---|
| | | | | Unaided |
| | HWS Image Beam | | Class Iia | |
| 50012 | Visible Pointer Low Power | <1mW | Class II | 0 |
| | Visible Pointer High Power | <5mW | Class IIIa | 74 |
| 50013 | I/R ILLUM Low Power | <1mW | Class IIIb | 25 |
| | I/R ILLUM High Power | <5mW | Class IIIb | 100 |
| 50018 | I/R ILLUM Low Power | <1mW | Class IIIb | 25 |
| | I/R ILLUM High Power | <40mW | Class IIIb | 220 |
| 50016 | I/R ILLUM Low Power | <5mW | Class IIIb | 100 |
| | I/R ILLUM High Power | <120mW | Class IIIb | 400 |

**SAFETY SUMMARY, continued**

**DEFINITION OF THE FOLLOWING ALERTS THROUGHOUT THIS MANUAL:**

**WARNING –** Identifies a clear danger to the person doing that procedure.

**CAUTION –** Identifies risk of damage to the equipment.

**NOTE –** Used to highlight essential procedures, conditions, statements, or convey important instructional data to the user.

**WARNING**

Be sure the weapon is CLEAR and on SAFE before proceeding.

**WARNING**

RISK OF DETECTION BY ENEMY—To reduce the risk of detection by an enemy using a Night Vision Device (NVD), avoid prolonged activation of the infrared laser.

**WARNING**

The infrared laser beam is more detectable to an enemy using a NVD when used in smoke, fog and rain. Avoid prolonged activation of the EOLAD lasers in these conditions.

**WARNING**

The HWS laser beam can become eye accessible if the housing is broken. If the housing is broken, turn OFF the sight immediately and return the unit for repair.

**WARNING**

DO NOT store the EOLAD with the batteries installed.

**WARNING**

The high power mode of laser operation is not eye safe and is blocked with a safety screw.

**WARNING**

To operate the EOLAD laser in the high power mode, the blue safety screw must be removed from the back of the unit. The Armorer will remove and store the safety screw.

**WARNING**

Make sure the Laser Activation Selector Switch is in the OFF position before inspecting the front of the EOLAD.

**WARNING**

If the Laser Activation Mode Selector Switch is not in the OFF position, the laser can be inadvertently activated by depressing the fire button on the side of the housing.

**WARNING**

If the Laser Borelight System (LBS) is used to boresight the EOLAD, be sure to remove the LBS from the weapon prior to firing.

**WARNING**

NEVER boresight the EOLAD using the high power mode of laser operation.

**CAUTION**

DO NOT over-adjust the adjusters by forcing them beyond their end of travel.

**CAUTION**

DO NOT over tighten the Safety Screw when installing it into the EOLAD housing as you may strip the housing threads.

**CAUTION**

Use ONLY authorized weapon cleaning supplies on the EOLAD or permanent damage may occur.

**CAUTION**

DO NOT remove the Remote Cable Switch by pulling on the cable.

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## HOW TO USE THIS MANUAL

**Usage**
You must familiarize yourself with the entire manual before operating the equipment. Read the complete maintenance task before performing maintenance and follow all **WARNINGS, CAUTIONS** and **NOTES**.

**Manual Overview**
The manual contains sections for Operating and Maintaining the EOLAD.

**Appendix A** Repair Parts.

## CHAPTER I
## GENERAL INFORMATION

**Figure 1-1 EOLAD in Use**

## 1.1 GENERAL INFORMATION

### 1.1.a Type of Manual:
Operator and Field Maintenance Manual.

### 1.1.b Model Number and Equipment Name:
EOLAD-1

### 1.1.c Purpose of Equipment:
To accurately aim a firearm in daytime and low light conditions using the holographic weapon sight (HWS). For aiming and pointing using the visible aiming laser (VIS POINT) model or to direct fire using an infrared laser pointer (IR POINT) model.

## 1.2 REPORTING EQUPMENT IMPROVEMENT RECOMMENDATIONS
If EOLAD product or technical manual needs improvement, let us know. Mail your comments to Laser Devices, Inc., 2 Harris Court, Suite A-4, Monterey, CA 93940, USA, send a fax to 831-373-0903 or send an Email to Sales@laserdevices.com.

## 1.3 WARRANTY INFORMATION
This item shall conform to design, manufacturing, and performance requirements and be free from defects in material and workmanship for one (1) year from the date of manufacture. This warranty does not cover batteries, exit port covers or pressure pad switch assemblies. Nor does it protect against damage due to loss, misuse or mishandling.

## 1.4 CROSS REFERENCES

| Common Name | Official Name |
|---|---|
| Allen Wrench | Socket Head Screw Key |
| Battery Compartment | Battery Box Cover |
| Shipping Case | Textile Bag |
| Cotton Swab | Disposable Applicator |
| Neoprene Jack Plug | Plug Assembly |
| O-Ring | Gasket |
| Safety Screw | Electrical Dial-Knob Lock |
| Pattern Generator | Optical Instrument Reticle |
| Lens Covers | Exit Port Covers |
| Paddle Switch | Remote Cable Switch |
| Batteries | AA |
| Technical Manual | Operator and Field Maintenance Manual |
| Tape Fastener Loop | Fastener, Loop Tape |
| Tape Fastener Hook | Fastener, Hook Tape |

## 1.5 LIST OF ABBREVIATIONS

C ..... Celsius (Centigrade)
CCW ..... Counter-clockwise
cm ..... Centimeters
cont'd ..... Continued
CTA ..... Common Table of Allowance
CW ..... Clockwise
F ..... Fahrenheit
HI ..... High
HWS ..... Holographic Weapon Sight
ILLUM ..... Illuminator
in ..... Inches
IR ..... Infrared
LBS ..... Laser Borelight System
LED ..... Light Emitting Diode
LO ..... Low
m ..... Meters
Max ..... Maximum
Mfr ..... Manufacturer
Min ..... Minimum
MOM ..... Momentary
mrad ..... Milliradians
mW ..... Milliwatts
nm ..... Nanometers
No ..... Number
NOHD ..... Nominal Ocular Hazard Distance
NSN ..... National Stock Number
NVD ..... Night Vision Device
O.D. ..... Optical Density
OIR ..... Optical Instrument Reticle
Para ..... Paragraph
POINT ..... Pointer
PWR ..... Power
QTY ..... Quantity
RAS ..... Rail Adapter System
RMA ..... Return Material Authorization
SR ..... Service Representative
TM ..... Technical Manual
VIS ..... Visible

## CHAPTER II
## EQUIPMENT DESCRIPTION

### 2.1 SYSTEM DESCRIPTION

The EOLAD system combines the L-3 EoTECH HWS with either a Laser Devices, Inc. Class IIIa VIS POINT or a Class IIIb IR POINT. The HWS and the laser pointer operate independently from one another and can be used individually or in combination.

The HWS portion of the system uses laser light to illuminate a holographic reticle in the display window. Looking through the display window the user will see a red image of the reticle that will mark the impact point when the HWS is zeroed to the weapon. The operator can select the brightness setting for the reticle for use in daytime or low light conditions. No light is projected into the target plane by the HWS.

The VIS POINT model is for daylight and low light operations. The IR POINT model emits a highly collimated beam of infrared light for precise aiming of the weapon for users equipped with a NVD.

The laser has two power settings. The LO PWR setting can be used for training and for close quarter combat (CQC) operations. The HI PWR setting is for use outdoors and at longer range. A Safety Screw is installed in the rear of the EOLAD laser housing to prevent the operator from inadvertently accessing the non-eye safe (HI PWR) modes of laser operation. A remote cable switch or local momentary switch is used to provide momentary and continuous operation of the lasers.

The EOLAD mounts on the top receiver rail on weapons equipped with a MIL-SPEC-1913 rail.

## 2.1 SYSTEM DESCRIPTION (cont.)

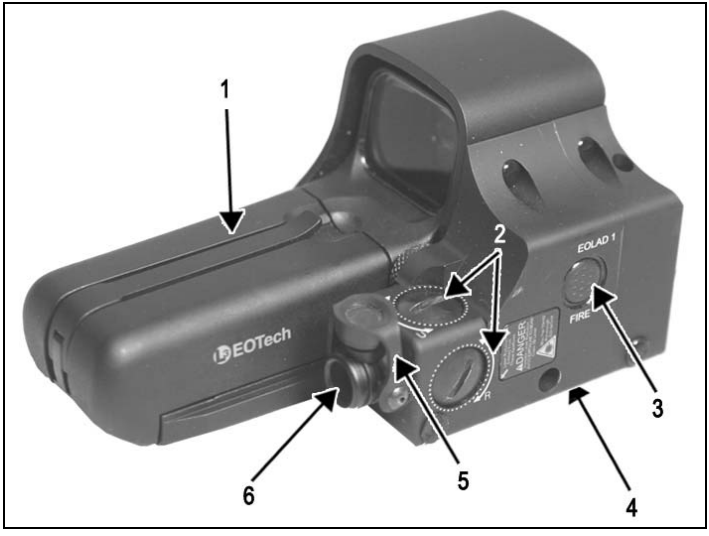



**Figure 2-1a EOLAD System Description**

**Table 2-1a EOLAD System Description**

| ITEM | DESCRIPTION |
|---|---|
| 1 | Battery Compartment (HWS) |
| 2 | Laser Boresight Adjusters |
| 3 | Laser Integrated Momentary Switch |
| 4 | Laser Exit Port Cover |
| 5 | Laser Exit Port |
| 6 | Laser Emote Cable Port (not visible) |

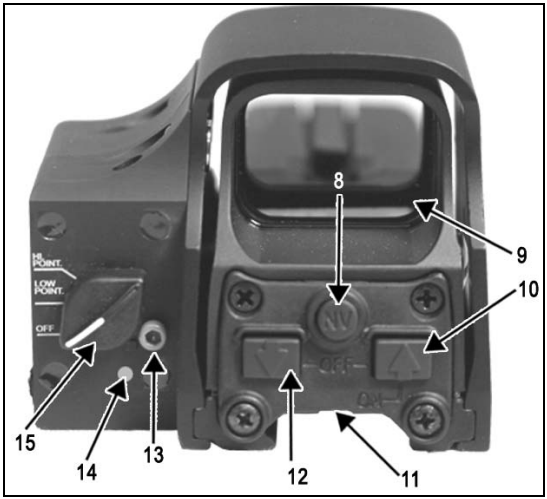



**Figure 2-1b EOLAD System Description**

**Table 2-1b EOLAD Characteristics**

| ITEM | DESCRIPTION |
|---|---|
| 8 | HWS Night Vision Switch |
| 9 | HWS Viewing Window |
| 10 | HWS Up Button for turning ON/OFF and increasing brightness of reticle |
| 11 | HWS Universal Mount |
| 12 | HWS Down Button for turning ON/OFF and decreasing brightness of reticle |
| 13 | Laser Safety Screw |
| 14 | Laser Activation/Low Battery Indicator Light |
| 15 | Laser Mode Selecter Switch |
| | HWS Boresight Adjusters (not visible) |

## 2.2 GENERAL CHARACTERISTICS

**Table 2-2 Weight, Dimensions and Performance**

| | |
|---|---|
| **WEIGHT** | |
| EOLAD (w/batteries) | 16.8 oz / 476.27 grams |
| **DIMENSIONS** | |
| Length | 5.5 in. / 14 cm |
| Width | 2.375 in. / 6 cm |
| Height | 2.375 in. / 6 cm |
| **LASER SPECIFCATION** | |
| **Laser Wavelength** | |
| HWS | 650 nm |
| VIS POINT | 635 nm (±5 nm) |
| IR POINT | 840 nm (- 30nm) |
| **Output Power** | |
| HWS | .08 mW |
| VIS POINT | 4.4 mW (-5 mW / +8mw) |
| IR POINT | 30 mW (-5 mW / +8mw) |
| **Beam Divergence** | |
| VIS POINT | 0.5 x 1.5 mrad (±.3 mrad) |
| IR POINT | 0.5 x 1 mrad (±.3 mrad) |
| Battery Life | 15 hours continuous |
| **IR POINT and IR POINT RANGE (STARLIGHT CONDITIONS)** | |
| VIS POINT | >600m |
| IR POINT (Low/High) | >600m / >2000m |
| **HWS SPECIFICATIONS** | |
| Batteries | Two 1.5-volt AA batteries |
| HWS Reticle | 65MOA ring with 1MOA dot |
| Brightness levels | 1:20 |
| Dynamic range | 146,000: 1 |
| NVS levels | 10 |
| NVS Dynamic Range | 1280:1 |

## 2.3 DESCRIPTION OF MAJOR COMPONENTS

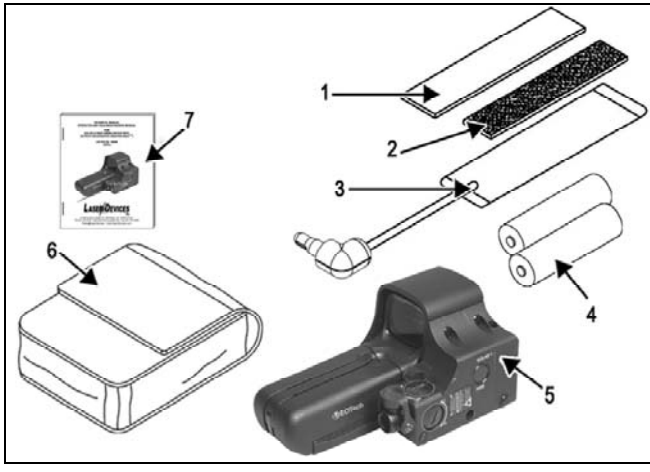



**Figure 2-2 EOLAD Major Components**

**Table 2-3 EOLAD Major Components**

| ITEM | DESCRIPTION |
|---|---|
| 1 | Tape Fastener Loop 5/8” (Black) |
| 2 | Tape Fastener Hook ½" (Black) (attached to remote cable switch) |
| 3 | Remote Cable Switch, HI Pressure MOM Remote |
| 4 | Batteries, 1.5-volt AA, 2 |
| 5 | EOLAD Assembly |
| 6 | Shipping Case |
| 7 | Operator and Field Maintenance Manual |

**2.3.a Tape Fastener Loop**
The Tape Fastener Loop is provided to secure the Remote Cable Switch to the weapon in a position convenient to the soldier.

**2.3.b Tape Fastener Hook**
The Tape Fastener Hook is pre-attached by the manufacturer to the pressure pad switch.

**2.3.c Remote Cable Switch**
The Remote Cable Switch allows the user to activate the EOLAD in a momentary (MOM) fashion by depressing the pressure pad once. Pressing the pressure pad twice in rapid succession will activate the EOLAD laser continuously for a period of five (5) minutes. Pressing the pressure pad again will return the laser to momentary activation. The pressure pad provides a tactile (silent) click that indicates when the switch has been activated. The Remote Cable Switch has a hook strip fastener attached to the switch.

**2.3.d Batteries**
Two 1.5-volt AA batteries, contained in the battery compartment of the HWS, are used to power the EOLAD. The use of high-quality batteries is recommended.

**2.3.e EOLAD Laser Assembly**
The EOLAD device provides aiming capability using the HWS and offers a VIS POINT model or an IR POINT model. The device is used for aiming, signaling, command and control.

**2.3.f Shipping Case**
The EOLAD is provided with a Shipping Case that is used to protect the unit during transport or storage.

### 2.3.g Operator and Field Maintenance Manual

**NOTE**

Before operating the EOLAD, you must read the entire Operator and Field Maintenance Manual and follow all WARNINGS, CAUTIONS and NOTES.

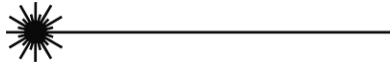
The Operator and Field Maintenance Manual provides safety information, equipment information, operating instructions, mounting procedures, zeroing procedures and operator and unit maintenance procedures.

## CHAPTER III
## SECTION I OPERATING INSTRUCTIONS

### 3.1 GENERAL

**DANGER**

**VISIBLE OR INVISIBLE LASER RADIATION**
**AVOID DIRECT EXPOSURE TO THE BEAM**



**VISIBLE LASER POINTER (Class IIIa)**
**OUTPUT: <5mW | WAVELENGTH: 535nm / 635nm**

**INFRARED LASER POINTER (Class IIIb)**
**OUTPUT: <5mW / <40mW / <120mW | WAVELENGTH: 835nm**

- DO NOT stare into the laser beam.
- DO NOT look into the laser beam through binoculars or telescopes.
- DO NOT point the laser beam at mirror-like surfaces.
- DO NOT shine the laser beam into other individual's eyes.

This section contains a description of the controls and adjustments for the EOLAD.

## 3.2 EOLAD CONTROLS AND INDICATORS

### 3.2.a Battery Installation

**WARNING**

DO NOT store the EOLAD with the batteries installed.

**NOTE**

The batteries are contained in the battery compartment of the HWS.

Before reinstalling the battery compartment, make sure there is enough clearance between the contact and the batteries to avoid bending the contacts.

If the batteries are left in the HWS backwards, they will be drained of their power.

Remove the battery compartment located on the front, top of the HWS by lifting up on the locking cam lever and carefully sliding the battery compartment forward then up from the sight housing. Inspect the battery compartment for dirt, moisture and corrosion. Clean as needed. Inspect the gasket in the battery compartment to make sure it is free of dirt particles. Install two, new AA batteries as indicated on the bottom of the battery compartment. Reinstall the battery compartment by pointing the HWS towards the ground and sliding the battery compartment onto the base. Make sure that the battery compartment sits all the way down and is parallel to the base. Hold the battery compartment down firmly against the base and close the locking cam.

Verify correct battery installation immediately by turning the HWS ON and checking for the holographic reticle.

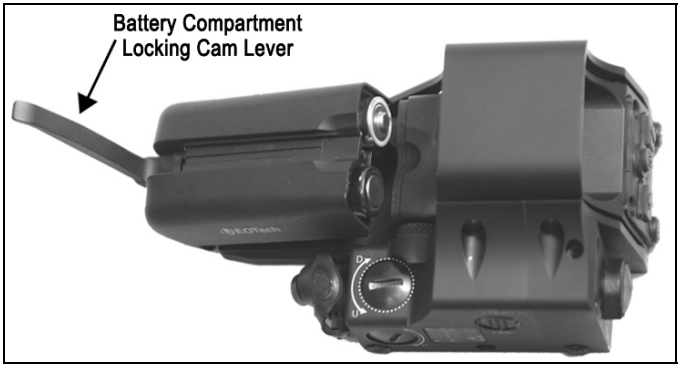



**Figure 3-1 EOLAD Battery Installation**

## 3.2 EOLAD CONTROLS AND INDICATORS, (cont.)

### 3.2.b. Activation of the HWS

**NOTE**

All electronic features of the HWS are accessed by the push-button switches located on the back of the HWS housing. To ensure proper operation, press firmly in the center of the switch.

**ON and Auto Battery Check for HWS**

Depressing the Up or Down Arrow push-button switches will turn the HWS ON at an intermediate brightness setting (Level 12). The HWS will automatically perform a battery check each time it is turned on. If a low battery is detected the reticle will flash on and off for five (5) seconds. The batteries should be replaced whenever a low battery is detected.

**OFF for HWS**

The HWS is turned OFF by depressing both the UP and DOWN Buttons simultaneously. Verify that the unit has been turned off by looking through the HWS view window to confirm that the reticle has turned off.

**Automatic Shutdown for HWS**

The HWS has an automatic shutdown capability that will turn the reticle off automatically. If the HWS is activated using the UP button the unit will shut off automatically eight (8) hours after the last push button control is used. If the HWS is activated using the DOWN button, then the unit will shut off automatically four (4) hours after the last push button control is used.

### 3.2.c. Brightness Adjustment for HWS

The UP and DOWN push button switches are used to change the brightness setting of the HWS reticle. Pressing and releasing the UP button increases the brightness of the reticle by one (1) step. Pressing and releasing the DOWN button decreases the brightness of the reticle by one (1) step.

Pressing and holding the UP button will scroll the brightness upward. Pressing and holding the DOWN button will scroll brightness level down.

There are twenty (20) brightness settings providing a dynamic range of 146,000:1 from the lowest setting to the highest setting.

### 3.2.d. Night Vision Mode for HWS

**NOTE**

When using the HWS with a NVD always make sure that the sight is turned OFF before pushing the NV Button. If the sight is turned ON before pushing the NV Button the HWS will revert to the Normal Mode and will saturate the NVD.

The EOLAD HWS is compatible with Gen II, III, III+ and IV Night Vision Devices. When the night vision settings are accessed, the reticle brightness is reduced so that it will not bloom when viewed through a NVD. The Night Vision button on the HWS has the following functions:

**ON / Night Vision Mode with 8 Hour Auto Shutdown**

Pressing the NV button will turn the HWS ON in the Night Vision Mode. The sight turns on at level four (4) and will automatically shut down eight (8) hours after the last push button control is used.

## 3.2 EOLAD CONTROLS AND INDICATORS, (cont.)

**OFF / Turning the HWS OFF**
Press both the UP and DOWN buttons simultaneously. Verify that the HWS has turned off using a NVD.

**Toggle Between Normal and Night Vision Modes for HWS**
Switch between Normal and Night Vision Modes by depressing the NV button.

**Brightness Adjustments in Night Vision Mode for HWS**
The UP and DOWN push button switches are used to change the brightness setting of the HWS reticle in NV mode. Pressing and releasing the UP button increases the brightness of the reticle by one (1) step. Pressing and releasing the DOWN button decreases the brightness of the reticle by one (1) step.

Pressing and holding the UP button will scroll the brightness upward. Pressing and holding the DOWN button will scroll brightness level down.

There are ten (10) brightness levels in the Night Vision Mode with a dynamic range of 1280:1.

### 3.2.e Laser Activation Mode Selector Switch

**WARNING**

The High Power Modes of operation are not eye safe and are blocked with a safety screw.

**NOTE**

The lasers will not operate if the rotary switch is not precisely aligned with the marked switch position.

In extreme cold temperatures the rotary switch used with the EOLAD laser may offer more resistance.

The Laser Activation Mode Selector Switch has no effect on the HWS optic.

The Laser Activation Mode Selector Switch is located on rear of the laser housing. It is used to select between the HI PWR and LO PWR modes of operation when the Remote Cable Switch or the Integrated Momentary Activation Switch is pressed. The Laser Activation Mode Selector Switch has seven (3) positions. See Table 3-1.

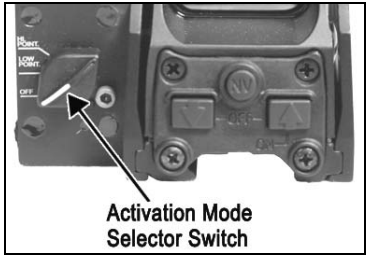



**Figure 3-2 Laser Activation Mode Selector Switch**

## 3.2 EOLAD CONTROLS AND INDICATORS (cont.)

**Table 3-1 Laser Activation Mode Selector Switch Functions**

| Switch Position | Marking | Use | Remarks |
|---|---|---|---|
| 1 | OFF | OFF | The lasers WILL NOT OPERATE. (The HWS continues to operate.) |
| 2 | LOW POINT | Activates the laser in momentary LO PWR when the Remote Cable Switch or Integrated Momentary Activation Switch is depressed. | Pressing the Remote Cable Switch or Integrated Momentary Activation Switch twice in rapid succession will activate the laser continuously for five (5) minutes. Pressing the Remote Cable Switch or Integrated Momentary Activation Switch again will return the unit to momentary activation. |
| 3 | HI POINT | Activates the laser in momentary HI PWR when the Remote Cable Switch or Integrated Momentary Activation Switch is depressed. | Pressing the Remote Cable Switch or Integrated Momentary Activation Switch twice in rapid succession will activate the laser continuously for five (5) minutes. Pressing the Remote Cable Switch or Integrated Momentary Activation Switch again will return the unit to momentary activation. |

### 3.2.f Laser Safety Screw

**WARNING**

To operate the EOLAD laser in the High Power modes the blue safety screw must be removed from the back of the laser housing. The Armorer will remove and store the safety screw.

**CAUTION**

DO NOT over tighten the Safety Screw when installing it into the EOLAD housing as you may strip the housing threads.

The Safety Screw is a blue colored hex head that, when installed, prevents the operator from accessing the non-eye safe HI PWR modes of laser operation. Unit standing operating procedures will provide direction on removal of the Safety Screw to enable the HI PWR modes of operation.

A 3/32 inch Hex Key from the Armorer's tool kit is used to remove the Safety Screw. The Armorer will remove and store the safety screw in the recessed storage position located on the bottom of the EOLAD laser housing.

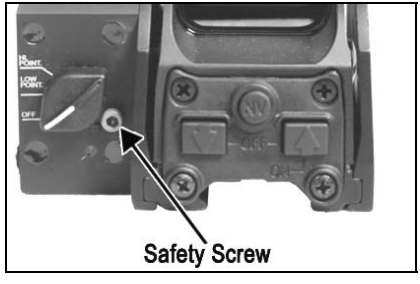



**Figure 3-3 Laser Safety Screw Installed**

## 3.2 EOLAD CONTROLS AND INDICATORS (cont.)

### 3.2.g Laser Integrated Momentary Activation Switch

**NOTE**

Click sound is minimized by depressing the center of the switch

The Laser Integrated Momentary Activation Switch is located on the side of the laser housing. Pressing and holding the switch activates the laser function selected by the Laser Activation Mode Selector Switch. When the switch is released, the laser turns off.

Pressing the Laser Integrated Momentary Activation Switch twice in rapid succession will activate the laser in a continuous ON mode for five (5) minutes. Pressing the Laser Integrated Momentary Activation Switch once again will return the laser to momentary activation.

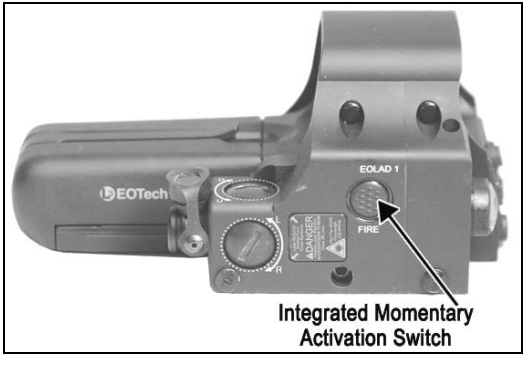



**Figure 3-4 Laser Integrated Momentary Activation Switch**

### 3.2.h Laser Activation Indicator/Low Battery Indicator.

**NOTE**

When the Laser Activation Indicator/Low Battery Indicator starts to flash the batteries in the HWS will need to be replaced.

A green LED is located in the rear housing of the laser. When lit, it indicates that the laser is actively emitting laser light. It also acts as a Low Battery Indicator.

When the Laser Activation Mode Selector Switch is turned to either power mode (LOW POINT or HI POINT), the LED will light up when either the Remote Cable Switch or Integrated Momentary Activation Switch is pressed, indicating that the laser is ON. The LED will remain lit until the Integrated Momentary Activation Switch or Remote Cable Switch is released.

If the Remote Cable Switch or Integrated Momentary Activation Switch is depressed twice in rapid succession, the LED will light up indicating that the laser is functioning in a constant ON mode. The LED will remain lit until the laser automatically shuts off after five (5) minutes or until the Integrated Momentary Activation Switch or Remote Cable Switch is pressed once again to return the unit to momentary activation.

If the LED starts to blink, the batteries are low and should be replaced. Once the LED starts to blink, the laser will continue to operate in the HI PWR mode for approximately 1/2 hour. The batteries should be replaced as soon as the Low Battery indicator starts to blink.

## 3.2 EOLAD CONTROLS AND INDICATORS, (cont.)

**Figure 3-5 Laser Activation LED / Low Battery Indicator**

### 3.2.i HWS Low Battery Indicator

**NOTE**

When the HWS Low Battery Indicator starts to flash the batteries need to be replaced.

The first indication of the batteries draining is the reticle blinking when the unit is turned on. Another indication of low batteries is the reticle pattern blinking off and on during recoil. With high recoil weapons, this can occur before the battery check indicates a low battery condition. If the reticle pattern blinks off and on during recoil or turns off suddenly, replace the batteries. Please read and follow the battery replacement and battery check procedures described in Paragraphs 3.2.a and 3.2.b.

The HWS automatically performs a battery check each time the unit is turned on. If the batteries have less than 20% of life left, the sight will turn on and the reticle image will blink on and off for 5 (five) seconds. The battery condition can be checked at any time by turning the sight off and back on.

## 3.2 EOLAD CONTROLS AND INDICATORS (cont.)

### 3.2.j Laser Remote Cable Switch

**CAUTION**

DO NOT remove the Remote Cable Switch by pulling on the cable.

**NOTE**

The EOLAD is shipped with a manufacturer installed Shipping Plug in the remote cable port. Remove the Shipping Plug before installing a Remote Cable Switch.

When installing the Remote Cable Switch, gently twist the plug into the remote cable port.

The Laser Activation Mode Selector Switch must be turned to HI POINT or LO POINT to use the Remote Cable Switch.

The laser will not operate if the rotary switch is not precisely aligned with the marked switch position.

The Remote Cable Switch does not control the functions or operation of the HWS.

The Remote Cable Switch plugs into the bottom of the laser housing as shown in Figure 3-7. Pressing the Remote Cable Switch activates the EOLAD laser in the operational mode and power level selected by the Laser Activation Mode Selector Switch (HI POINT or LOW POINT). When the remote cable switch is released, the laser turns off.

If the Remote Cable Switch has been pressed twice in rapid succession, it will activate the laser in a constant ON mode until the Remote Cable Switch is pressed once again to return the laser to momentary activation.

When the Remote Cable Switch is installed, it automatically locks in place. To remove it, gently pull back on the plug's sleeve.

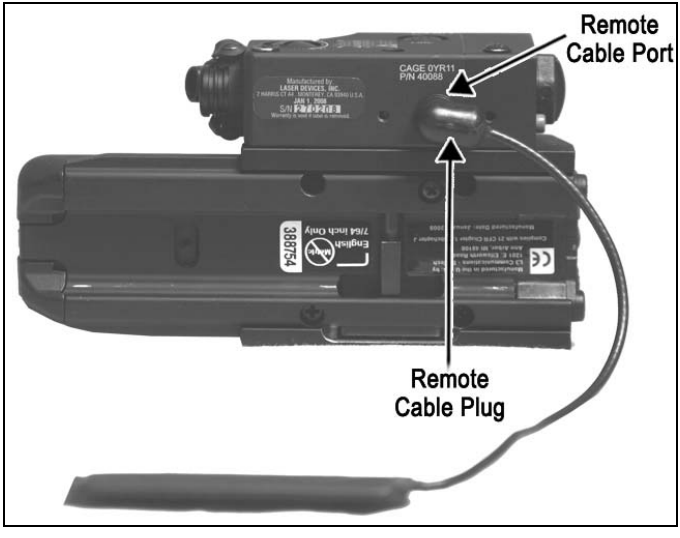



**Figure 3-6 Installation of the Laser Remote Cable Switch**

## 3.2 EOLAD CONTROLS AND INDICATORS (cont.)

### 3.2.k Laser Exit Port Cover

The EOLAD is supplied with an Exit Port Cover. When properly installed over the laser exit port they prevent laser energy emission.

Install the Exit Port Cover by pulling it forward until it can be moved into place over the exit port lens. Align the Exit Port Cover with the laser exit port and press firmly into place. When the EOLAD is not in use, it should be stored with the Exit Port Cover in place to prevent the emission of laser energy and protect the lens.

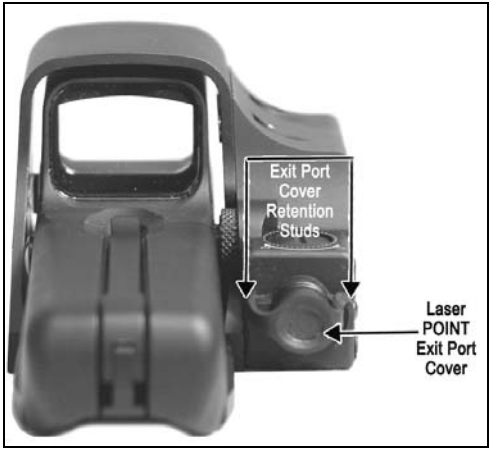



**Figure 3-7 Laser Exit Port Cover Installation**

### 3.2.I Laser Boresight Adjusters

**CAUTION**

DO NOT over adjust the adjusters by forcing them beyond their end of travel.

**NOTE**

The adjuster may offer increased resistance as you turn it in a CW direction from the factory neutral position. When the adjuster is harder to turn it has reached the maximum CW travel.

The EOLAD laser is equipped with boresight adjusters to adjust the laser for elevation and azimuth. Each adjuster click will move the laser point by approximately 5 millimeters at 25 meters.

The laser housing is engraved with arrows and the letters U (UP), D, (Down), L (Left) and R (Right). The arrows and letters show the direction that the shot group will move when the adjuster is turned.

**Figure 3-8 Laser Boresight Adjusters**

## 3.2 EOLAD CONTROLS AND INDICATORS (cont.)

**Table 3-2 Adjuster Rotation and Shot Group Movement for the Laser POINT**

| ZEROING THE POINT | Adjuster Movement | Shot Group Movement |
|---|---|---|
| Top Adjuster Elevation (marked D/U) | CW<br>CCW | Up<br>Down |
| Side Adjuster Azimuth (marked L/R) | CW<br>CCW | Right<br>Left |

### 3.2.m HWS Boresight Adjusters

**CAUTION**

DO NOT over-adjust the adjusters by forcing them beyond their end of travel.

**NOTE**

Do not turn the adjusters before mounting the HWS on the firearm.

If the universal mount is not parallel to the barrel, major elevation adjustments can be accomplished by shimming the universal rail.

DO NOT use the HWS elevation adjustment for major adjustments. The HWS internal elevation and azimuth adjustments should be reserved for fine-tuning to achieve zero at the distance required.

After the first shots are fired, check to make sure that the HWS mount and sight remain secured to the weapon.

The HWS azimuth and elevation adjusters are located on the right hand side of the HWS housing. The knob closest to the front is the Azimuth Adjuster. The knob closest to the rear is the Elevation Adjuster. A slot in each knob allows the adjuster to be turned using a screwdriver, coin or expended cartridge case.

HWS Boresight adjustments have been preset at the factory so that the line of sight to the center of the reticle is parallel to the mounting rail on the weapon. The sight should be fairly close to zero with a properly installed mounting rail.

Each HWS adjuster click will move the bullet's point of impact 1/2 Minute of Angle (MOA) or 1/4 inch at 50 yards and 1/2 inch at 100 yards. Each complete rotation of either knob will change the point of impact 10 MOA (5 inches at 50 yards; 10 inches at 100 yards).

### 3.2.m HWS Boresight Adjusters (cont.)

To move the strike point UP, turn the Elevation adjustment screw CCW. To move the strike point DOWN, turn the Elevation adjustment screw CW. To move the strike point RIGHT, turn the Azimuth adjustment screw CW. To move the strike point LEFT, turn the Azimuth adjustment screw CCW. Groups of three to six shots should be fired to average the point of impact.

**Table 3-3 Adjuster Rotation and Strike Point Movement for the HWS**

| ZEROING the HWS | Adjuster Movement | Strike Point Movement |
|---|---|---|
| Elevation<br>(Rear Adjuster) | CW<br>CCW | Down<br>UP |
| Azimuth<br>(Front Adjuster) | CW<br>CCW | Right<br>Left |

## 3.3 MOUNTING PROCEDURES

**WARNING**

Be sure the weapon is CLEAR and on SAFE before proceeding.

**NOTE**

The EOLAD may be placed at any position (forward and aft) on the rail that is convenient for the operator. If the EOLAD is removed from the rail, the operator must take note of the position at which it was zeroed, and return it to the same position in order to ensure that zero is retained.

The rail needs to be as parallel as possible to the bore to permit the maximum elevation and azimuth adjustments.

An integrated universal mount, located on the bottom of the HWS, is used to attach the EOLAD to weapons equipped with a MIL-STD-1913 rail.

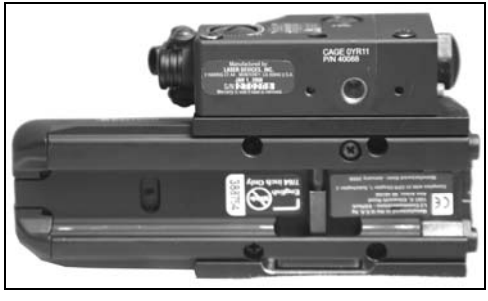



**Figure 3-9 HWS Universal Mount Assembly**

### 3.3 MOUNTING PROCEDURES, continued

#### 3.3.a Mounting Procedure

Locate the mounting point for the EOLAD on the top receiver rail of the weapon.

Loosen the hex nut retainer screw and clamp with a 7/64 inch Allen wrench.

Place the post within a groove on the top rail. Make sure that the post is fully inserted into the mount's groove and push the sight as far forward as possible.

Firmly tighten the mount assembly onto the rail using the supplied Allen Wrench.

Install the Remote Cable Switch in a convenient location.

**Figure 3-10 EOLAD Mounting on M4/M16A**

**CHAPTER III**
**SECTION III BORESIGHTING/ZEROING PROCEDURES FOR THE EOLAD LASER**

This section provides instructions for boresighting/zeroing the EOLAD Laser either by using the MBS-1WE Laser Borelight System (LBS), LDI Part No. 3160635 or on a 25 meter range.

## 3.4 LASER FACTORY NEUTRAL PRESET

**The EOLAD laser is preset at the factory to a neutral position at 25 meters.**

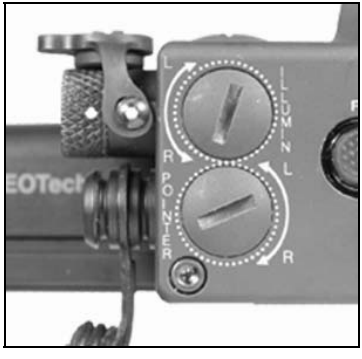



**Figure 3-11 Neutral Preset**

### 3.5.a Boresighting the EOLAD Laser Using the Laser Borelight System (LBS)

**WARNING**

NEVER boresight in the High Power mode of operation.

**CAUTION**

DO NOT over-adjust the adjusters by forcing them beyond their end of travel.

This procedure is used to boresight the EOLAD laser for a distance of 300, 400 or 500 meters using the MBS-1WE Laser Borelight System (LBS), LDI Part No. 3160635.

See Figure 3-12 for a sample 10 Meter Offset Target. Refer to the LBS Operator's Manual for instructions on creating boresight targets.

**1.** Instructions Pending

**3.5 EOLAD Mounting Configurations and Weapon Offsets (cont.)**

**3.5.a Boresighting the EOLAD Laser Using the Laser Borelight System (LBS) (cont.)**

**Target Pending**

**Figure 3-12 Sample 10-Meter Boresight Target**

### 3.5.b Zeroing the EOLAD Laser on a 25 Meter Range

**CAUTION**

DO NOT over-adjust the adjusters by forcing them beyond their end of travel.

This procedure is used to zero the EOLAD on a 25 meter range. Refer to Tables 3-2 and 3-3 for adjuster rotation and direction of shot group movement.

**1.** Instructions Pending

### 3.5 EOLAD Mounting Configurations and Weapon Offsets (cont.)

### 3.5.b Zeroing the EOLAD Laser on a 25 Meter Range (cont.)

**Target Pending**

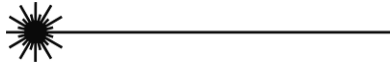
**Figure 3-13 25m Zeroing Target**

## CHAPTER IV
## SECTION I OPERATOR PREVENTIVE MAINTENANCE CHECKS

### 4.1 General

**DANGER**

**VISIBLE OR INVISIBLE LASER RADIATION**
**AVOID DIRECT EXPOSURE TO THE BEAM**



**VISIBLE LASER POINTER (Class IIIa)**
**OUTPUT: <5mW | WAVELENGTH: 535nm / 635nm**

**INFRARED LASER POINTER (Class IIIb)**
**OUTPUT: <5mW / <40mW / <120mW | WAVELENGTH: 835nm**

- DO NOT stare into the laser beam.
- DO NOT look into the laser beam through binoculars or telescopes.
- DO NOT point the laser beam at mirror-like surfaces.
- DO NOT shine the laser beam into other individual's eyes.

Table 4-1 Preventive Maintenance Checks, has been provided so that you can keep your equipment in good operating condition.

**NOTE**

Perform functional tests in the order listed in Table 4-1. Operating Procedures are detailed in Chapter III, Section I.

The EOLAD Safety Screw must be installed in the Training Position. See Paragraph 3.2.f for Safety Screw operation.

Functional testing of the EOLAD to ensure proper operation should be performed in a dark room or area away from light. Viewing of IR beam must be performed with a NVD, (AN/PVS-7 or AN/PVS-14).

**4.1.a Warnings and Cautions**

Always observe the WARNINGS and CAUTIONS appearing in the table.

**4.1.b Explanation of Table Entries**

**1. Item Number column.** Numbers in this column are for reference. Item numbers also appear in the order that you must perform the checks and services listed.

**2. Interval column.** This column tells you when you must do the procedure in the procedure column. BEFORE (B) PROCEDURES must be done before you operate or use the equipment. DURING (D) PROCEDURES must be done during the time you are operating or using the equipment. AFTER (A) PROCEDURES must be done immediately after you have operated or used the equipment.

**3. Location Item to Check/Service column.** This column provides the location and the item to be checked or serviced. The item location is underlined.

**4. Procedure Column.** This column gives the procedure you must do to check the item.

**5. Not Fully Mission Capable If column.** Information in this column tells you what faults will keep your equipment from being capable of performing its primary mission.

Be sure to observe all special information and notes that appear in your table.

**Table 4-1 Preventive Maintenance Checks**

| Item No. | Interval | Location Item to Check/Service | Procedure | Not Fully Mission Capable If: |
|---|---|---|---|---|
| 1 | B/D/A | EOLAD Exterior | -Check housing for separation between the front and the rear section of the housing, missing screws and missing switch knobs, azimuth and elevation adjuster covers. | A gap appears between the front and the rear section of the housing, missing switch knobs, or adjuster covers |
| **WARNING: DO NOT STARE DIRECTLY INTO INFRARED LIGHT BEAM** | | | | |
| 2 | B/A | Exit Port Covers | -Check for broken or missing covers, exit port cover retention studs.<br>-Move the Exit Port Covers to the open position. | |
| 3 | B/A | Exit Port Lens | -Check for cracked, dirty or broken lens or missing ILLUM focusing adjustment. | If cracked or missing lens or missing ILLUM focusing knob. |
| 4 | B/A | Adjusters | -Check for broken, missing or stripped Adjusters. | Adjusters broken, missing or stripped or laser fails to move. |
| 5 | B/D/A | Safety Screw | -Broken or Missing | Broken or Missing |
| 6 | B/D/A | Remote Cable Port | -Check for mud or dirt and clean as needed. | |
| 7 | B/A | Install DL-123A Battery | -Install a known good battery | |

| Item No. | Interval | Location Item to Check/ Service | Procedure | Not Fully Mission Capable If: |
|---|---|---|---|---|
| 8 | B/A | Laser Mode Selector Switch | -Set the Activation Mode Selector Switch to LOW POINT and activate using the remote cable switch or integrated momentary switch to confirm that the laser is working. -Use NVD to confirm the operation of the IR laser beams | Laser Mode Selector Switch is not fully functional. |
| 9 | B | Boresight Alignment | -Confirm that the I/R POINT or VIS POINT to be used on the mission can be boresighted/zeroed on the weapon on which it will be mounted<br>-Check to make sure that the VIS POINT / I/R POINT projects on the same side of the target as the laser is mounted and falls within 10.2 cm of the bore at 25 meters. See Section 3.5. | |
| 10 | B/D/A | LED Status Indicator | -Observe green LED is lit and does not flash when lasing | |
| 11 | B/A | Optical Instrument Reticle (I/R model only) | -Check for presence of cracks in the lens.<br>-Install and check pattern is visible using I/R POINT<br>-Focus I/R ILLUM as needed to view pattern.<br>-Rotate OIR to improve intensity | |
| 12 | B/A | Remote Cable Switch | -Insert the remote cable switch and activate the laser. | |
| 13 | B/A | Flood Adjuster | -Check that I/R ILLUM adjusts from spot to flood setting | |

**Table 4-1 Preventive Maintenance Checks (cont**

| Item No. | Interval | Location Item to Check/ Service | Procedure | Not Fully Mission Capable If: |
|---|---|---|---|---|
| 14 | B | Exit Port Covers | -Close exit port covers and press into place.<br>-Activate visible laser and visually check to make sure no light is being emitted from around the cover | |
| 15 | A | Textile Bag | Check for torn fabric. | |
| 16 | A | Battery | Remove battery | |

## CHAPTER IV
## SECTION II OPERATOR TROUBLESHOOTING

### 4.2 General

The purpose of troubleshooting is to identify the most frequent equipment malfunctions, probable causes and corrective actions required. Table 4-2 lists the common malfunctions which may be found during the operation or maintenance of the EOLAD and accessory equipment. Perform the tests, inspections and corrective actions in the order listed. This manual cannot list all malfunctions that may occur; or all tests, inspections and corrective actions.

**Table 4-2 Operator Troubleshooting**

| Malfunction | Test / Inspection | Corrective Action | Ref. Para. |
|---|---|---|---|
| **1.** POINT / ILLUM beam fails to come on or stay on | **a.** Ensure Mode selector switch is in proper position | -Properly align switch | 3.2.b, 3.2.c |
| | **b.** Verify Exit Port Cover is removed and that the Exit Port Lens is not obscured by mud / dirt | -Remove Exit Port Covers<br>-Clean POINT / ILLUM Exit Port Lenses | 4.3.b |
| | **c.** Verify battery installation | -Install new battery | 3.2.a |
| | **d.** Possible internal failure | -Notify Unit Maintenance | - |
| **2.** POINT / ILLUM beam becomes weak (not as bright) | **a.** Verify Exit Port Cover is removed and that the Exit Port Lens is not obscured by mud / dirt | -Remove Exit Port Cover<br>-Clean POINT / ILLUM Exit Port Lens | 4.3.b |
| | **b.** Verify battery installation | -Install new battery | 3.2.a |
| | **c.** Verify Exit Port Lens is not scratched or pitted | -Notify Unit Maintenance | - |
| **3.** Low Battery Indicator Light remains on when new battery is installed | Inspect battery compartment for corrosion | -Clean battery compartment contacts | 4.3.c |
| **4.** POINT / ILLUM beam DOES NOT move | Verify adjuster function | -Clean as required<br>-Notify Unit Maintenance | 4.3.a |
| **5.** Remote Cable Switch inoperable, but Integrated Momentary Activation Switch functions | **a.** Verify Remote Cable Switch plug is fully seated | -Reconnect plug | 3.2.g |
| | **b.** Verify Remote Cable Port is free of mud / dirt | -Flush with water | 4.3.a |
| | **c.** Inspect Remote Cable Plug Contacts | -Clean as needed | 4.3.a |
| | **d.** Verify function of Remote Cable Switch | -Notify Unit Maintenance | - |

| Malfunction | Test / Inspection | Corrective Action | Ref. Para. |
|---|---|---|---|
| **6.** POINT beam cannot be zeroed to weapon | **a.** Verify Dovetail Mount is properly positioned/secured to weapon | -Properly position and secure | 3.3 |
| | **b.** If laser is loose on rail:<br>-Move to different position on rail.<br>-Move to different rail on weapon.<br>-Replace rail on weapon | | - |
| | **c.** Inspect mount base for corrosion or dirt | -Clean as required<br>- Notify Unit Maintenance | 4.3.a |
| | **d.** Verify EOLAD is properly secured to the Dovetail Mount | -Notify Unit Maintenance | - |
| | **e.** Verify Throw Lever Mount is not damaged | -Notify Unit Maintenance | - |
| | **f.** Check for beam movement | -Notify Unit Maintenance | - |
| **7.** ILLUM knob turns, but beam does not change | Verify knob is free of mud and dirt | -Clean as required<br>-Notify Unit Maintenance | 4.3.a |
| **8.** OIR is installed in front of I/R ILLUM and pattern is blurry or unrecognizable | Verify I/R ILLUM has been focused to a point | -Focus the I/R ILLUM to a point<br>-Rotate OIR to improve intensity<br>-Install different OIR<br>-Notify Unit Maintenance | 3.2.i |

## 4.3 General

**WARNING**

DO NOT store the EOLAD with the batteries installed.

**CAUTION**

The use of gun cleaning agents that contain perchloroethylene or methylene chloride may permanently damage the EOLAD system.

The EOLAD is a rugged, compact laser device that is designed to operate in severe military environments. The exterior housing is made of aircraft grade aluminum and the outer components are made of chemically resistant materials that will not be harmed by chemicals normally encountered during military operations. Operator maintenance is limited to the inspection and cleaning of the EOLAD external surfaces, replacement of the batteries before each mission and removal of the batteries after each mission.

### 4.3.a External Cleaning

Clean the exterior of the EOLAD by flushing with water and wiping with a soft cloth. Such cleaning should be done whenever the EOLAD becomes dirty or after exposure to salt water.

### 4.3.b Laser Exit Port Lens Cleaning

To clean the Exit Port Lenses, wipe clean using a soft cloth or disposable applicator dampened with water.

### 4.3.c HWS Battery Compartment

Before each use, inspect the batteries and battery compartment for dirt, dust or corrosion. If dirty, clean using a soft cloth or disposable applicator.

### 4.3.d HWS Battery Compartment Hood

The battery compartment hood is preassembled at the factory and is not removable. Should your hood require maintenance, please contact us. Tampering with the hood lock screws will void the warranty.

### 4.3.e Battery Removal and Replacement

Refer to Chapter III, Section I, Paragraph 3.2.a for Battery Installation procedures. No special tools or equipment are required to replace the batteries.

### 4.3.f Remote Cable Port

Before each use, inspect the remote cable port for dirt, dust or corrosion. Thoroughly clean the receptacle by flushing with water then wipe with a soft cloth or disposable applicator.

# CHAPTER V
# SECTION I UNIT TROUBLESHOOTING

## 5.1 UNIT TROUBLESHOOTING

The purpose of troubleshooting is to identify the most frequent equipment malfunctions, probable causes and corrective actions required. Table 5-1 lists the most common malfunctions that may occur with the EOLAD. Perform the tests, inspections and corrective actions in the order they are listed. This manual cannot list all malfunctions that may occur; or all tests, inspections and corrective actions.

## 5.1 UNIT TROUBLESHOOTING, continued

**Table 5-1 Unit Troubleshooting**

| Malfunction | Test / Inspection | Corrective Action | Ref. Para. |
|---|---|---|---|
| **1.** POINT / ILLUM beam fails to come on or stay on | **a.** Inspect battery compartment for corrosion | -Clean battery compartment | 5.2.c |
| | **b.** Inspect battery cap contact for corrosion | -Clean battery cap contact | 5.2.d |
| | **c.** Inspect battery cap and housing threads for contamination. | -Clean battery cap and housing threads | 5.2.d |
| | **d.** Possible internal failure | -Replace battery cap<br>-Return for repair | 5.7 |
| **2.** POINT / ILLUM beam becomes weak (not as bright) | **a.** Verify Exit Port Cover is removed and that the Exit Port Lens is not obscured by mud / dirt | -Remove Exit Port Cover<br>-Clean POINT / ILLUM Exit Port Lenses | 5.2.b |
| | **b.** Verify proper battery installation | -Install new battery | 3.2.a |
| | **c.** Verify Exit Port Lens is not scratched or pitted | -Return for repair | 5.7 |
| **3.** Low Battery Indicator Light remains on when new battery is installed | Inspect battery compartment for corrosion | -Clean battery compartment contacts | 5.2.c |
| **4.** POINT / ILLUM beam DOES NOT move | Verify adjuster function | -Clean as required<br>-Return for repair | 5.2.a<br>5.7 |
| **5.** Remote Cable Switch inoperable, but the Integrated Momentary Activation Switch functions | Inspect Remote Cable Port for dirt or debris | -Clean remote cable port | 5.2.f |

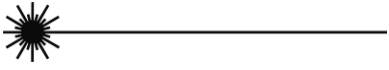
| Malfunction | Test / Inspection | Corrective Action | Ref. Para. |
|---|---|---|---|
| **6.** Laser cannot be aligned, moves on the rail. | Inspect weapon system rail. | -Refer to appropriate weapons TM | |

**CHAPTER V**
**SECTION II UNIT MAINTENANCE**

## 5.2 General

**DANGER**

**VISIBLE OR INVISIBLE LASER RADIATION**
**AVOID DIRECT EXPOSURE TO THE BEAM**



**VISIBLE LASER POINTER (Class IIIa)**
**OUTPUT: <5mW | WAVELENGTH: 535nm / 635nm**

**INFRARED LASER POINTER (Class IIIb)**
**OUTPUT: <5mW / <40mW / <120mW | WAVELENGTH: 835nm**

- DO NOT stare into the laser beam.
- DO NOT look into the laser beam through binoculars or telescopes.
- DO NOT point the laser beam at mirror-like surfaces.
- DO NOT shine the laser beam into other individual's eyes.

**CAUTION**

The use of gun cleaning agents that contain perchloroethylene or methylene chloride may permanently damage the EOLAD system.

Unit Maintenance Procedures consist of operational tests, inspections, troubleshooting and the replacement of a limited number of parts (paragraphs 5.2.a through 5.2.e). All authorized repair parts can be installed at the unit level. An EOLAD failing to meet the tests and inspections should be replaced.

**5.2.a External Cleaning**
Clean the exterior of the EOLAD by flushing with water and wiping with a clean, soft cloth. Cleaning should be done whenever the EOLAD becomes dirty or after exposure to salt water.

**5.2.b Laser Exit Port Lens Cleaning**
Use a lens cleaning kit to clean the lens.

**5.2.c HWS Battery Compartment**
Before each use, inspect the batteries and battery compartment for dirt, dust or corrosion. Clean the battery compartment by wiping with a soft, clean cloth. If a damp cloth is used to clean the battery compartment make sure to allow the compartment to air dry completely before reinstalling the battery compartment.

**5.2.d Battery Removal and Replacement**
Refer to Chapter III, Paragraph 3.2.a for Battery Installation procedures. No special tools or equipment are required to replace the batteries.

**5.2.e Replace Remote Cable**
See Chapter III, Paragraph 3.2.j for replacement of the Remote Cable Switch.

**5.3 TESTS AND INSPECTIONS**
See Operator Preventive Maintenance Checks and Services Table 4-1.

**5.4 REMOVAL AND REPLACEMENT OF PARTS**
Unit Maintenance is authorized for the removal and replacement of a limited number of assemblies. All repair parts can be installed at the unit level. Special tools or equipment are not required for maintaining the EOLAD.

**5.4.a Battery Removal and Installation**
See Chapter III, Paragraph 3.2.a for procedures.

**5.4.b Remove and Replace Safety Screw**

**WARNING**

In order to make the EOLAD operate in the High Power modes of operation the blue safety screw must be removed from the back of the unit. The Armorer will remove and store the safety screw.

**CAUTION**

DO NOT over tighten the Safety Screw as it may strip the threads in the housing.

The Armorer will remove and store the safety screw using a 3/32 in. hex key.

The Armorer will install the safety screw using a 3/32 in. hex key.

### 5.4.c Removal and Replacement of Laser Exit Port Cover Retaining Straps

To remove the top Exit Port Cover, pull on the loose end of the Exit Port Cover retaining strap and stretch it over the stud.

To replace the Exit Port Cover Retaining Straps, stretch the end of the retaining strap over one of the retaining studs located on each side of the laser exit port. Repeat the procedure by stretching the loose end of the retaining strap over the other stud.

### 5.5 Warranty Information

Laser Devices, Inc. will furnish its standard form LIMITED WARRANTY in favor of its customers and the first end users of its products. The terms of the warranty are as follows: All LDI manufactured products (excluding flashlight bulbs, borelight inserts, batteries and other items that are ordinarily consumed during the normal use of the product) have a ONE (1) year limited warranty on parts and workmanship from the date of purchase. The warranty is void if the serial number or the manufacturer's labels affixed to the product have been removed or if the product has been misused, modified, neglected or has been disassembled prior to return to the manufacturer. LDI will repair or replace defective products at its discretion. To the maximum extent permitted by law, LDI's election to repair or replace the device shall constitute the purchaser's sole remedy in the event of a defect. LDI disclaims all other warranties, expressed or implied, including but not limited to implied warranties of merchantability and fitness for a particular purpose. Moreover, to the maximum extent permitted by law, LDI on behalf of itself, its suppliers, distributors, dealers and agents disclaims any and all other liability for damages, including without limitation, actual damages, consequential damages and indirect damages, for personal injury, wrongful death, pecuniary loss and any other physical or financial loss arising out of the use or the inability to use any LDI product even if Laser Devices, Inc. has been advised of the possibility of such damages. This limited warranty gives the purchaser specific legal rights which may vary by state and jurisdiction.

### 5.6 NON-Warranty Information

Non-warranty repairs are subject to an evaluation fee. EOLAD units that are not covered by the warranty will be tested and evaluated for failure. Customer permission and payment terms will be obtained prior to performing any repairs.

## 5.7 Return Instructions

**5.7.a** For service, repair or replacement email: Service@laserdevices.com, call 800-235-2162 (outside California) or 831-373-0701 (within California) and ask to speak with Service Representative (SR).

**5.7.b** To assist the SR with determining if the item is repairable, please provide the following information:
**1.** Serial Number of the defective item
**2.** Thorough description of the malfunction, defect or damage
**3.** An explanation of how the malfunction, defect or damage occurred, if known.

If the SR determines that the item is under warranty or should be returned for repair, a Return Material Authorization (RMA) number will be provided.

**5.7.c** When returning the EOLAD for service or repair, the following procedures should be followed to prevent any additional damage:
**1.** Be sure that the EOLAD is free of all contaminants such as dirt or any other foreign material.
**2.** Remove the batteries.
**3.** Place the Exit Port Cover over the lens.
**4.** Place the EOLAD in the Shipping Case or Carrying Case if available. If the Shipping Case is not available, individually package each EOLAD unit being returned in a suitable container.

**5.7.d** Place the EOLAD and a copy of the test report or detailed description of the failure in a suitable packing/shipping container. Mark the package with the RMA number. Ship the fastest, traceable, prepaid means to Laser Devices, Inc., 2 Harris Court, Suite A-4, Monterey, California 93940.

# APPENDIX A
# REPAIR PARTS

**Pending**

**Figure A-1 Repair Parts**

## Table A-1 Repair Parts List (EOLAD)

**Pending**

LASER DEVICES INC.

2 Harris Court, Suite A-4 • Monterey, CA 93940
Tel 831-373-0701 / 800-235-2162 (outside CA)
Fax 831-373-0903
Sales@laserdevices.com • www.laserdevices.com

L3 communications
EOTech

1201 E. Ellsworth Rd. • Ann Arbor, MI 48108
Tel 734-741-8868 • Fax 734-741-8221
general@L-3com.com • www.eotech-inc.com

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